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Source/Driver: (Name & Number from ISP, IAG milestone, Mgmt. Action, Corres. Control, etc.)	**Closure #:** (Outgoing Correspondence Control #, if applicable)	**Due Date**

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Document Subject:

REQUEST FOR CONTAINED-IN DETERMINATION FOR MEDIA AND DEBRIS EXCAVATED FROM TRENCH 1 - JEL-125-97

KH-00003NS1A December 4, 1997

Discussion and/or Comments:

The enclosed correspondence is a request for a contained-in determination for soil and debris excavated from Trench 1. The contained-in determination will allow the depleted uranium, soil, and debris to be managed as non-hazardous waste even if low concentrations of RCRA listed solvent constituents are detected. As non-hazardous waste, optimal management may be realized that includes recycling and waste minimization.

Please forward this request to DOE for transmittal to CDPHE and EPA.

Attachments:
As Stated

cc:
L. M. Brooks
A. C. Crawford
J. E. Law
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A. L. Primrose
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RMRS Records (2)

December 5, 1997

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Denver, CO 80222-1530

REQUEST FOR CONTAINED-IN DETERMINATION FOR MEDIA AND DEBRIS EXCAVATED FROM TRENCH 1

Project Information

DOE is scheduled to begin remediation of Trench 1 (T-1) in early 1998. The remediation is being conducted as a joint CERCLA remediation and RCRA corrective action under the Rocky Flats Cleanup Agreement. As you are aware, T-1 was used for burial of depleted uranium metal chips (lathe and machine turnings) packed in lathe coolant. Burial occurred intermittently from 1954 through 1962. Historical information indicates that other T-1 wastes included ten drums of cemented cyanide waste, one drum of unknown "still bottoms" and "copper alloy".

Because the depleted uranium is potentially pyrophoric, for health and safety reasons, characterization within the limits of the trench has not been performed. It should be understood that some soil and groundwater characterization has been performed in the vicinity, and T-1 is not considered a source of solvent contamination to groundwater. Regardless, that does not eliminate the possibility that tramp solvents carried from the machining process, or F001 contaminated groundwater originating from listed sources at the nearby 903 Pad could contaminate some or all of the soil and debris that will be excavated and managed during the project.

Although significant levels of VOC contamination are not anticipated, given the sources of contamination, any detectable levels of carbon tetrachloride, tetrachloroethene (PCE) or trichloroethene (TCE) contained in the T-1 soil or debris would ordinarily require identification of the materials as RCRA hazardous. DOE is requesting this risk-based contained-in determination for the T-1 soil and debris prior to excavation. In this way, optimal management of these marginally contaminated materials may be realized at facilities that are not otherwise permitted to handle RCRA hazardous wastes.

For example, DOE is working to utilize Starmet, a South Carolina facility that both recycles depleted uranium metal into shielding and uses a high temperature calcine process to oxidize depleted uranium mixed with soil to form small, stable briquettes for disposal. Starmet is NRC licensed but is not a permitted RCRA facility. The contained-in determination is necessary for DOE to utilize Starmet's innovative processes which are proven and will promote recycling and waste minimization. It is important to note that the depleted uranium is source material and is not regulated as a RCRA D003 reactive metal. (See 40 CFR §261.4(a)(4)).

Regulatory Framework for Contained-in Determinations

Contained-in determinations for debris are available at Colorado Code of Regulations, 1007-6, §261.3(f)(2) and 40 CFR §261.3(f)(2). Likewise, EPA and states authorized for the RCRA base program have the authority to determine risk-based levels at which contaminated soils no longer contain listed hazardous wastes. (See 61 FR 18795, middle column, center). EPA noted that "conservative, health-based levels derived from direct exposure pathways would clearly be acceptable as contained-in levels" and that "(i)t has been common practice for EPA and states to specify conservative, risk-based levels calculated with standard conservative exposure assumptions (usually based on unrestricted access)".

EPA's most recent discussion of the contained-in policy and its relationship to LDR requirements can be found at 61 FR 18804. Although that discussion was presented as part of the proposed HWIR Media Rule, according to the RCRA hotline it represents the most current EPA statement on the policy. Specifically, EPA stated that: "(t)he land disposal restrictions do not attach to environmental media contaminated by hazardous wastes when the wastes were placed before the effective dates of the applicable land disposal prohibitions. If the media are determined not to contain hazardous wastes before they are removed from land, then they can be managed as nonhazardous contaminated media and they're not subject to land disposal restrictions." (See 61 FR 18805, left column, center).

Summary of Prior CDPHE Discussions

DOE has discussed the applicability of a contained-in determination with CDPHE staff. On a preliminary basis, CDPHE provided DOE the contained-in levels and explanation found in Attachment 1. DOE has provided that text in its entirety so that the exposure assumptions that are the basis for the contained-in levels are understood and documented. DOE is requesting that contained-in levels for carbon tetrachloride, TCE and PCE in T-1 soil and debris be established at the values presented in Attachment 1.

List of Constituents Included in the Contained-in Determination

Rocky Flats historical records refer to either carbon tetrachloride, TCE or PCE solvents. DOE has no knowledge of mixed solvent streams containing any of the long list of other solvent constituents that are included in the F001 definition. This is significant. In the environment, the dehalogenation of the solvents often produces degradation constituents (ie. methylene chloride) at detectable quantities. These degradation constituents may appear on the F001 list. Regardless, DOE does not believe that these environmental degradation constituents are a basis for listing the newly generated excavated soil and debris, and that it is only necessary to obtain a contained-in determination for the chemicals known to be present in the original solvents.

In relation to this, it is also important to recognize that even though a contained-in determination is only required for the three original solvent compounds, the excavated soil and debris may not exhibit any toxicity characteristic (TC) if it is managed outside of RCRA Subtitle C. In effect, the TC establishes 37 additional levels that act as a ceiling on allowable contamination. For example, if the 20 times rule is applied, the ceiling for other TC VOCs are in the same range as the contained-in levels (e.g. vinyl chloride - 4.0 mg/kg; 1,1 dichloroethene - 14 mg/kg).

Conditional Determination

At this time, DOE believes that the excavated soil and debris will fall below the contained-in levels specified in Attachment 1. Regardless, DOE requests a conditional determination that will allow

soil and debris within the 10^{-4} to 10^{-6} risk level to be evaluated by CDPHE on a case by case basis. This approach is consistent with Attachment 1.

DOE appreciates the assistance the CDPHE staff has provided in framing the terms of the contained-in determination. If you have questions or comments please do not hesitate to call me at (303) 966-4839, or Norma Castaneda of my staff at (303) 966-4226.

Steve Slaten
Manager, Regulatory Liaison

Attachment:
As Stated

cc:
Gary Kleeman, EPA Region VIII
William J. Quapp, Starmet
Tim Rehder, EPA Region VIII
Shelly Sherritt, South Carolina Dept. of Health & Environmental Control

Attachment 1

From CDPHE, 11/13/97

For a "defacto" delisting determination of soils containing listed wastes, the State has used 10^{-6} health risk-based numbers for direct contact by a resident. At these levels, the soils loose their listed waste label and are also eligible to be replaced back into their excavation without having to be further managed. Recently, the State has been willing to also consider soils containing contaminants at less than 10^{-4} levels to no longer contain a listed waste. Soils determined to contain contaminants at risk levels between 10^{-6} and 10^{-4} must then be managed as a solid waste. The following values have been calculated for residential contact with soil and are selected from Table 1 - Soil Cleanup Table Value Standards in CDPHE's Soil Remediation Objectives.

Contaminant	**Residential Soil 10^{-6} Risk (mg/kg)**
Carbon tetrachloride	0.23
Tetrachloroethylene (PCE)	2.0
Trichloroethylene(TCE)	3.0

These values, which include inhalation of volatiles, differ from RFETS' PPRGs which account only for soil ingestion. The basis for the derivation of these values is EPA's Soil Screening Guidance (1996). All pathways were included when possible, including inhalation of particulates and VOCs. No route-to-route (e.g., oral to inhalation) extrapolations were made. Dermal absorption was also included based on 1992 EPA guidance (assuming a .01 absorption factor for organics and .001 absorption factor for metals). Age-averaging was used for carcinogens (6 years as a child, 24 as an adult) and child exposures were used for non-carcinogens (except for certain contaminants with long-term effects).